

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Examine the)	
Commission's Future Energy Efficiency Policies,)	R.01-08-028
Administration and Programs.)	(Filed August 23, 2001)
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**RESPONSE OF THE CITY AND COUNTY OF SAN FRANCISCO TO THE
ASSIGNED COMMISSIONER RULING REQUESTING INFORMATION IN
RESPONSE TO THE GOVERNOR'S EXECUTIVE ORDER S-20-04**

The City and County of San Francisco (City or CCSF) provides this response in accordance with the December 29, 2004 Ruling of Assigned Commissioner Kennedy Requesting Information in Response to the Governor's Executive Order S-20-04 (ACR) and Judge Gottstein's February 3, 2005, order extending the deadline for submission of responses. The City applauds the objective of the Governor's Executive Order S-20-04, the Green Building Executive Order, to promote energy efficiency.

I. San Francisco Green Building Initiatives

Since 1999, San Francisco has had a Green Building Ordinance, which was most recently amended in 2004. The ordinance adopts the nationally-recognized Leadership in Energy and Environmental Design (LEED™) rating system to measure the environmental performance of the City's buildings. The ordinance requires that all new City buildings over 5,000 square feet achieve a LEED™ Silver rating or higher. Smaller construction projects are subject to reporting requirements. The Department of the Environment, in conjunction with a green buildings taskforce, has issued a Green Building Compliance Guide for City Departments providing guidance on meeting the requirements of the ordinance and LEED™ standards. In addition, the City is currently

revising its commercial and residential energy requirements to improve the energy efficiency of existing buildings. Some of the measures that staff of the Department of Environment is considering are a ban on T12 fluorescent lighting, periodic performance verification of HVAC systems and home energy ratings at time of sale.

II. Response to ACR Questions.

As to the responsibilities of the California Public Utilities Commission (CPUC), the ACR quotes ordering paragraph 4 of the Executive Order. As an initial matter, the City notes that the Executive Order references the Green Action Plan. The Green Action Plan directs the CPUC to ensure that ratepayer-supported energy efficiency programs:

- Produce greater measured efficiency gains per dollar of program expenditure;
- Encourage increasing levels of efficiency investments in longer term payback measures than those now typically occurring, including the use of new improved incentive programs, (such as utility bill discounts, incentives based on measured performance and "on bill" financing);
- Include building commissioning and advanced metering practices in programs whenever appropriate.

See Green Action Plan, section 2.1.3. These directions represent a departure from the current approach taken by the investor owned utility (IOU) energy efficiency programs and must be seriously considered in reviewing the program designs for the 2006-2008 energy efficiency program cycle. In responding to the eight questions posed by the ACR, the City includes concepts that address the directives in the Green Action Plan, section 2.1.3.

Q1 How much electricity and natural gas is currently used by government and private commercial buildings in your service territory?

The City, through its Hetch Hetchy Water & Power (HHWP), provides electricity for City municipal customers. Total MWh consumed by facilities served by HHWP is

approximately 900,000 MWh/year, with a peak demand of 146 MW (FY2002/2003). This value does include some process, transportation, and residential load. HHWP also pays for the aggregate gas usage for CCSF municipal facilities. Annual gas usage for these facilities is approximately 17 million therms (FY2002-2003). It is possible that Pacific Gas and Electric Company (PG&E) may include some or all of CCSF municipal load in its responses to the ACR, as PG&E provides distribution for the Hetchy Hetchy power.

Non-municipal customers within the City are served by PG&E. PG&E thus has the requisite information regarding non-municipal buildings. These buildings include a number of state and federal buildings in San Francisco.

The City notes that some agencies, including City departments, are located in leased commercial space. Variations in ownership and leasing arrangements must be considered in putting into place strategies to achieve energy use reduction; programs should be designed to reach the entities, usually the property owners, who can make decisions about resources and energy efficiency measures.

Q2 What level of energy savings (kWh, MW and therm) was captured in 2004 from currently approved energy efficiency programs targeted towards building efficiency for government and private commercial buildings? What other customer types are currently eligible for existing building efficiency programs, and how much savings have been captured by these customers by participating in ratepayer-funded energy efficiency programs in 2004.

During 2004, the CCSF-PG&E partnership program reported gross energy savings (actual and committed) of 11 MW, 65.7 MWh and 80,814 therms (the focus of the program was primarily peak electric load reduction so gas savings were not

emphasized). Additional PGC-funded PG&E programs were operating in the City at the same time and should have captured further savings.

In 2004, the City also supported several energy savings projects through its Environmental Justice program. Two local community organizations implemented a variety of measures in the residential and small commercial markets that produced .4 MW of gross load reduction.

HHWP delivers energy efficiency programs for its municipal load customers. Municipal load customers do not typically participate in IOU ratepayer-funded energy efficiency programs although there are a few exceptions, which will likely be included in PG&E's response to the ACR. HHWP energy efficiency projects in municipal buildings implemented in 2004 have resulted in 10,432,000 kWh/year energy savings and a peak load reduction of 1.7 MW. Projects completed in 2004 were not targeted at reducing gas usage.

In addition to energy efficiency, the installation of solar panels on the City's Moscone Convention Center was completed in 2004. The project was partially funded by the PG&E Self-Generation Incentive Program, and has resulted in 826,000 kWh/year energy savings.

Q3 What level of savings is anticipated to be captured by these programs in 2005? In addition to presenting the expected kWh, MW and therm savings levels, present estimates of reduced per square footage electricity usage relative to 2004 usage, so that it can be compared directly to the Governor's goals of achieving a reduction of 10% per square foot by 2010 and 20% per square foot by 2015.

HHWP energy efficiency projects projected to be complete by 2005 are expected to result in 11,647,000 kWh/year savings, and a 1.85MW load reduction from 2004

levels. Assuming a constant square footage of municipal buildings and no load growth, the percent electrical usage reduction since 2004 is approximately 1.3%.

HHWP's currently planned energy efficiency projects (anticipated to be in place by 2010) are projected to result in 80,118,000 kWh of electricity savings over the 2004 level, a 9% reduction in electrical usage and 2,326,207 therms of gas savings, a gas usage reduction of 13.6%.

During 2005, the CCSF-PG&E partnership program is projected to capture another 5 MW of savings before funds are exhausted.

The current system for recording energy savings from City energy efficiency activities does not measure or track energy use or savings per square foot. The energy savings per square foot benchmarking method is used by the EPA's Energy Star benchmarking program. It is much more comprehensive than an approach that merely measures savings. It takes into consideration whole building performance, rather than just end use measurements.

The City supports the EPA's more integrated, long-term strategy for energy efficiency, which a savings per square foot tracking system reflects. Such a strategy can encourage superior building performance and extremely cost-effective savings, as improved management and operational practices often provide no-cost or low-cost savings. Incentives that support energy efficiency in a more comprehensive fashion allow building owners to more easily integrate resource efficiency and renewables. Support for education, training and enforcement at the local level is crucial to ensure that long-term results are sustained.

Use of an energy per square foot measurement system may not be appropriate in all cases. For example, the energy per square foot benchmarking method may not work well for small to medium businesses. However, an innovative system to encourage long-term savings must be introduced for these customers, as they represent a substantial savings potential. A more comprehensive approach could capture what are now lost opportunities.

Q4 How are the current programs supporting a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures? Should a single, statewide campaign be initiated for this purpose? How might authorized funds for the 2004-2005 program year be redirected to support such an effort?

City energy employees meet regularly with the Building Owners and Managers Association (BOMA) and other building associations. As part of the current CCSF-PG&E partnership, City staff and PG&E representatives have been extremely active in educating building owners and operators about available building efficiency programs. However, because of the limited and short-term nature of these programs, discussions of benchmarking, commissioning, and whole building performance are not emphasized.

City Green Building employees are beginning to meet with stakeholders (building owners, developers, brokers, architects and tenants) to inform them of the comprehensive benefits of an integrated design process. Building professionals and stakeholders are finding this information to be critical for their projects and are requesting initial and additional trainings, information, and networking sessions. A statewide education campaign would certainly be important, but it must be accompanied and reinforced by local efforts.

Funding to provide broader and more frequent training on green buildings and the integrated design process is a necessity. Incentive programs for building owners to conduct post-occupancy evaluations would provide extremely important data to illustrate the compelling economic benefits of an integrated-design process to other building owners and operators.

In addition, CCSF would like to inventory green buildings in order to be able to produce a portfolio of such buildings. The portfolio could be used for tours, case studies, and could be made available as examples of what can be done to business owners looking for new space.

Q5 How much money is currently allocated to supporting programs to inform building owners and operators about the compelling economic benefits of energy efficiency measures and to improve commercial building efficiency?

Although a great deal of effort has gone into outreach to San Francisco customers, the budget for the CCSF-PG&E partnership program does not specifically allocate money to educate building owners and operators. Also, much of CCSF's role in the program has been directed to medium and small businesses owners in the retail or food service sectors who lease space. They are not involved in property ownership or building operations.

As mentioned above, strategies to better serve medium to small business customers should be developed. A more comprehensive approach would capture substantial lost savings opportunities in these sectors, in contrast to the current focus on prescriptive measures that achieve primarily near-term savings.

Q6 Describe how these programs are currently coordinated and how such coordination could be improved upon in the future.

The CCSF-PG&E partnership has suffered significantly because of lack of coordination. The coordination between the parties has greatly improved; however, coordination within PG&E itself remains a significant problem. So far, twice during the partnership, PG&E introduced programs that directly competed with the San Francisco partnership program--once in the statewide rebate program, and just recently in a procurement program. In both cases, vendors working in the partnership program began working under the competing program, and in some cases left San Francisco to operate in easier markets.

Coordination will be crucial to the success of a Green Building initiative. The Executive Order appropriately gives a leading role to the CEC, which has statewide authority. Another advantage of the CEC is that its jurisdiction is not limited to energy efficiency; thus, the CEC can act on a broader range of issues such as green buildings and global climate change.

Q7 How might CPUC funded energy efficiency programs be modified or enhanced to help achieve the reductions in per square footage electricity use for commercial building, as directed in the Green Buildings Executive Order?

Programs should be modified to support Green Building in several ways:

- Under the voluntary LEEDTM system, it is up to the building design team to decide which points to pursue. Therefore, the team can elect to only meet the minimum energy points. Incentive programs should be structured to assist designers to pursue the maximum possible energy points with incentives to support design assistance. Programs should make available information, training and direct technical assistance for green building projects throughout the design, construction and operation of public and private sector buildings. For example, CCSF is adopting a fast-track permitting process for projects that meet high levels of environmental and energy performance.
- Differences in local building codes and permit processes can increase or decrease the difficulty of implementing energy efficiency measures in existing buildings as well as in new construction. In some cases, design assistance and incentives will have to be developed in coordination with local building

officials to address local conditions. In other cases, programs can work with local governments to amend the local requirements in order to increase the ease of adopting energy efficiency measures.

- Building commissioning, required to achieve a LEED™ rating, is a new discipline that requires training and incentives to create lasting effects in buildings designed for high performance. Commissioning for new buildings and their subsequent recommissioning, as well as retro-commissioning of existing buildings are all-important to ensure that facilities are constructed and operated properly in accordance with the building's design. CCSF is investigating how it might be able to provide in-house commissioning for city facilities, much like the state is doing for state facilities.

In addition, opportunities to incorporate renewable energy alternatives should be included in programs to support green buildings. Renewable energy incentives and training need to be increased and extended to ensure continued penetration of renewable technologies in the marketplace. Renewable energy may never have the level of subsidies that fossil fuels enjoy, and continued financial support for solar, wind and biomass attempts to level the playing field.

Q8 What funding reallocations could be undertaken during 2005 to further facilitate meeting this goal? What level of additional funding in future years for commercial building efficiency programs do you estimate would be required to meet this goal?

1) CPUC funded energy efficiency activities should include funding to coordinate with local governments on local legislation. In many cases, existing programs provide incentives for measures that can be promoted more cost-effectively by, or in conjunction with, local legislation. For example, as part of the Peak Energy Program, staff at the San Francisco Department of the Environment is exploring a ban of T12 linear fluorescents after 2006. Notifying building owners now of a coming ban would drive many to the incentive program, and thus reduce marketing costs for the program. In other cases, incentives can support legislative efforts by providing to legislators the assurance that the new legislation will not be an undue burden on constituents.

2) To meet CPUC's goal of, "...supporting a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improve commercial building efficiency programs to help achieve the 20% goal" the following programs could make a significant impact:

- General assistance to building owners and operators to establish baseline data for annual reporting requirements and to ensure that future data collection is efficient and consistent;
- A statewide campaign to educate building owners/operators, building professionals, and the general public about energy efficiency, green building and integrated design;
- A City-based program to support the development of green buildings including: information/resources, training, technical assistance, incentive programs, case studies/post-occupancy evaluations, technology demonstrations, and fast track permitting;
- Frequent outreach to commercial building professionals and stakeholders on the demonstrated benefits of green building.

3) CCSF has initiated a green building code revision process to the City's Building Code through a new Green Building Subcommittee of the Code Advisory Committee of the Department of Building Inspection. Building codes can prevent the highest performing buildings from being realized, and present obstacles in areas of advanced energy design, water use and reuse, and natural ventilation systems. CCSF has made progress in streamlining the permitting process for photovoltaic systems and storm water management, and the City is continuing to address additional issues. Funding to allow additional staff time to address building code revisions is needed. Assistance from the state to local governments on building code revisions could facilitate the work in individual jurisdictions.

The City appreciates the opportunity to submit this response.

Dated: February 11, 2005

Respectfully submitted:

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CERTIFICATE OF SERVICE

I declare that:

I am employed in the City and County of San Francisco, State of California. I am over the age of eighteen years and not a party to the within action. My business address is City Attorney's Office, City Hall, Room 234, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102; telephone (415) 554-4623.

On February 11, 2005, I filed and served **RESPONSE OF THE CITY AND COUNTY OF SAN FRANCISCO TO THE ASSIGNED COMMISSIONER RULING REQUESTING INFORMATION IN RESPONSE TO THE GOVERNOR'S EXECUTIVE ORDER S-20-04** by electronic mail on the attached service list.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on February 11, 2005, at San Francisco, California.



ARLENE G. HALL